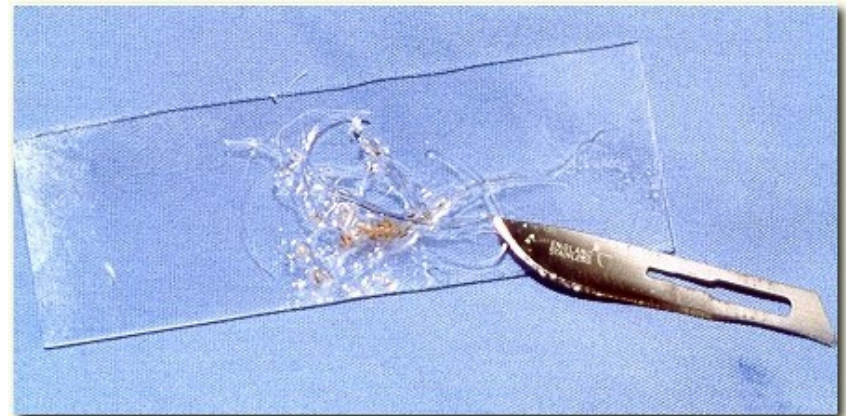


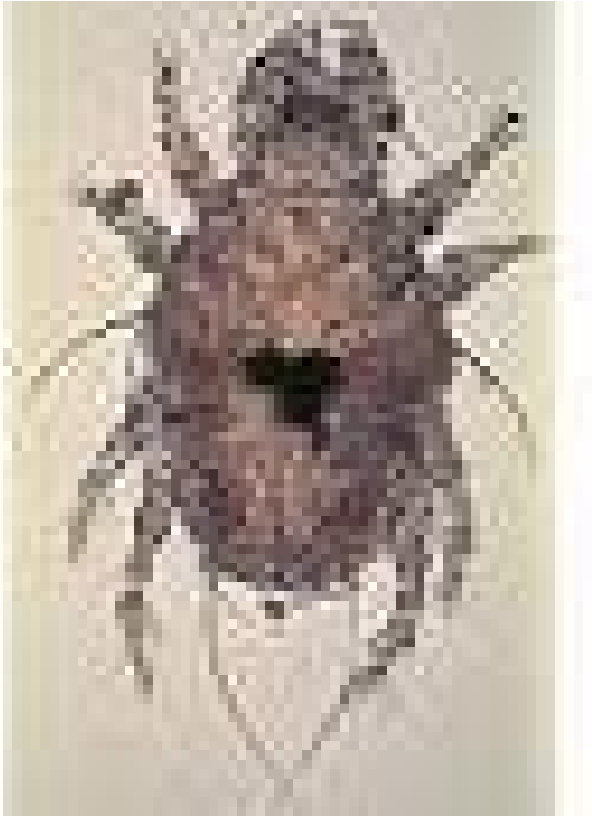
Lab 10: Mites

Procedure for Skin Scraping

- Use #10 scalpel blade, hold blade on an angle, perpendicular to the lesion – avoid making an incision – scrape the skin repetitively using an outward motion
- Be sure to scrape the periphery of the lesion (mites travel outward!)
- Scrape until you draw blood!!!
- Wipe the blade onto a microscope slide and place 1-2 drops of mineral oil over the scrapings.
- A thorough exam consists of 10 slides



General Mite Anatomy



- Arthropods (not insects!!!) related to ticks & spiders
- Body has 8 legs (larvae have 6)
- No wings/antennae
- 2 body divisions (head/thorax)
- Life cycle –
- egg → larvae → nymph → adult
- Nymph may have 2 molts depending on species

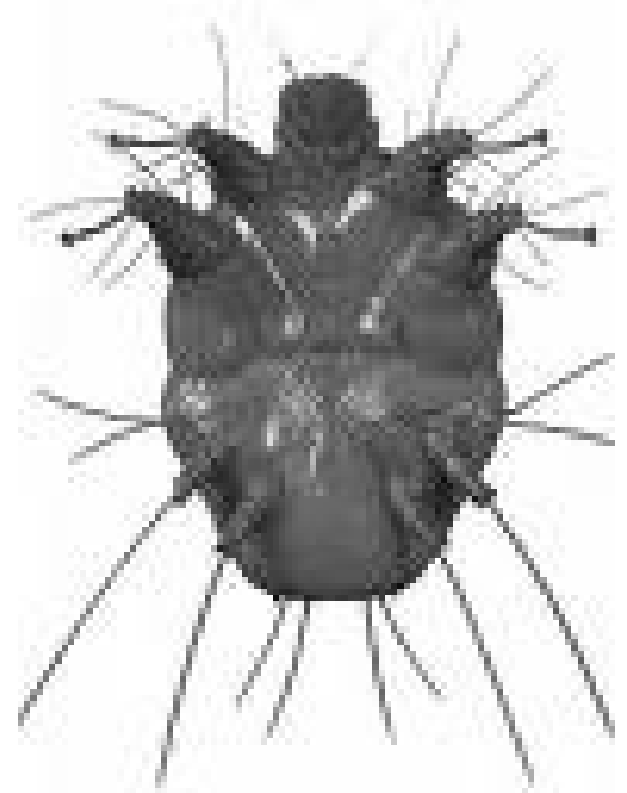
Sarcoptidae Family

- Affects dogs, cats, humans
- Burrowing mites
- Must scrape until blood seeps from abrasions

Life Cycle:

- Mites breed on skin surface
- Pregnant females burrow into epidermis, lays eggs & dies over 2 wk period
- Larvae wander to surface & molt in shallow epidermal pits (17 day development)
- 4 Stage Life Cycle spent entirely on host

- Seen most on ears, elbows & ventral abdomen
- Zoonotic!! But self-limiting, causes intense pruritis, but cannot complete life cycle



Sarcoptes spp.



Significance:

- Causes sarcoptic mange – scabies
- Intense pruritis
- Difficult to see on scraping
- Can lead to opportunistic bacterial infections
- Mainly affects dogs (can infest humans & cats)



Identification:

- Round to oval shaped body
- Suckers in front, legs are pedicels (w/ long stalks like whips & some suckers on ends)

Notoedres cati

- Feline scabies
- Seen in cats, rabbits – head, forelegs, ears, face, feet, neck
- Animal's body reacts to feces produced by mite in skin – red/yellow, crusty patches
- Head mange – starts on face and spreads
- Usually smaller than *Sarcoptes*
- Large unjointed pedicles w/suckers on ends



Psoroptidae family



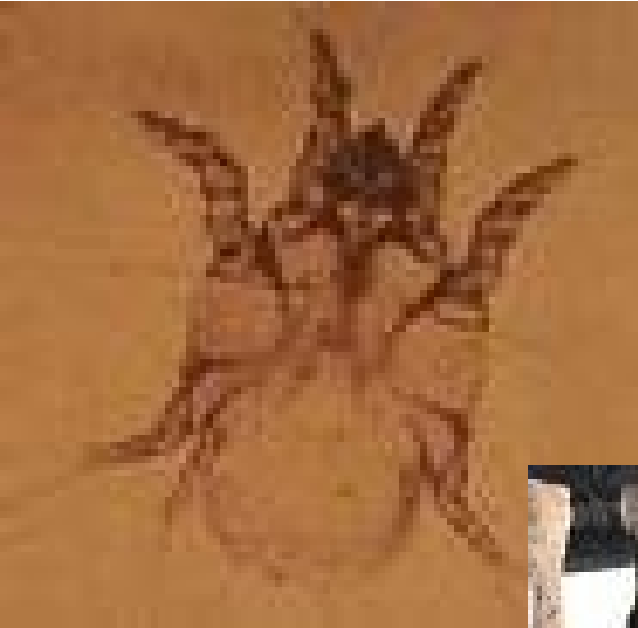
- Stay on skin surface or ear canals – don't burrow at all
- Puncture epidermis and feed on lymphatic fluid
- Spend entire life cycle on host
- See a lot of scabbing & scaling

Psoroptes spp.

- Ovis, bovis, equi – large animal mite
- High economic significance
- Severe loss, wool loss
- Excoriation, matted fleece
- Intense pruritis, skin damage
- Highly contagious
- Reportable disease!!!



Chorioptes spp.



- Non-burrowing, scrape superficially to collect loose scales & crust
- Foot & tail mite/itchy leg mite
- Large animals, same family as *Psoroptes*
- Puncture epidermis, feed on serum
- Crusting on skin, short unjointed pedicles with suckers at some ends
- Kicking, biting at legs esp. at night

Otodectes cyanosis

- Life in external ear canals
- Causes Otitis externa, thick, black coffee ground-like discharge in ears
- Collect w/cotton tipped applicator swab, place 1-2 drops mineral oil on slide, rub swab on slide (railroad tracks)
- Signs: head shaking, ear scratching, aural hematomas – can lead to cauliflower ear if not surgically treated
- Dogs, cats – host specific but can be transferred b/w the two
- Short, unjointed pedicles – female have 2 very long pedicles



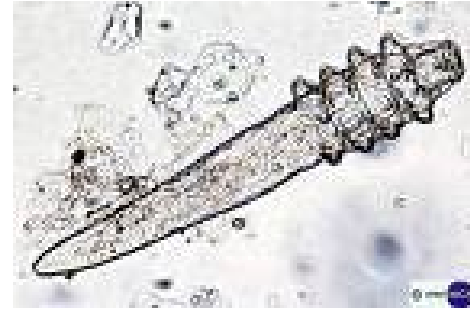
Trombiculidae spp.



- Harvest mites
- Chiggers – larvae (6 legs) only stage that parasitize humans, domestic animals & wild animals
- Eats serous components of tissues
- Ingests digestive fluids that liquify host cells
- Cause cutaneous lesions usually on head, ears, limbs, ventral abdomen & between digits

Demodex canis

- Hair follicle mite
- Scrape until blood seeps from abrasion
- Normal skin flora in non-sick animals – lives in hair follicles & sebaceous glands – eat waste in glands & keratin from follicles
- Can be local or generalized, host specific
- Usually on forelegs, around mouth & eyes
- Frequently seen in immunocompromised animals
- Puppies can get from nursing – causes diffuse alopecia, erythema, secondary skin infections
- Video of demodex through microscope:
<http://www.youtube.com/watch?v=4ChTRhHy3Cc>



Cheyletiella spp.



- Walking dandruff
- Fur mites seen on skin, hair coat
- Non-burrowing surface dwellers
- Cause excessive crusting & scaling on dorsal part of body
- Perform superficial scrap
- Cellophane tape collection or magnifying lens
- More frequent in cats than dogs (esp long hair)
- Alopecia, redness around face, muzzle, eyes
- Have enormous hooklike mouthparts
- Comblike structures at tips of legs

